Potato Lake Horticulture Project Report

FarmFacts

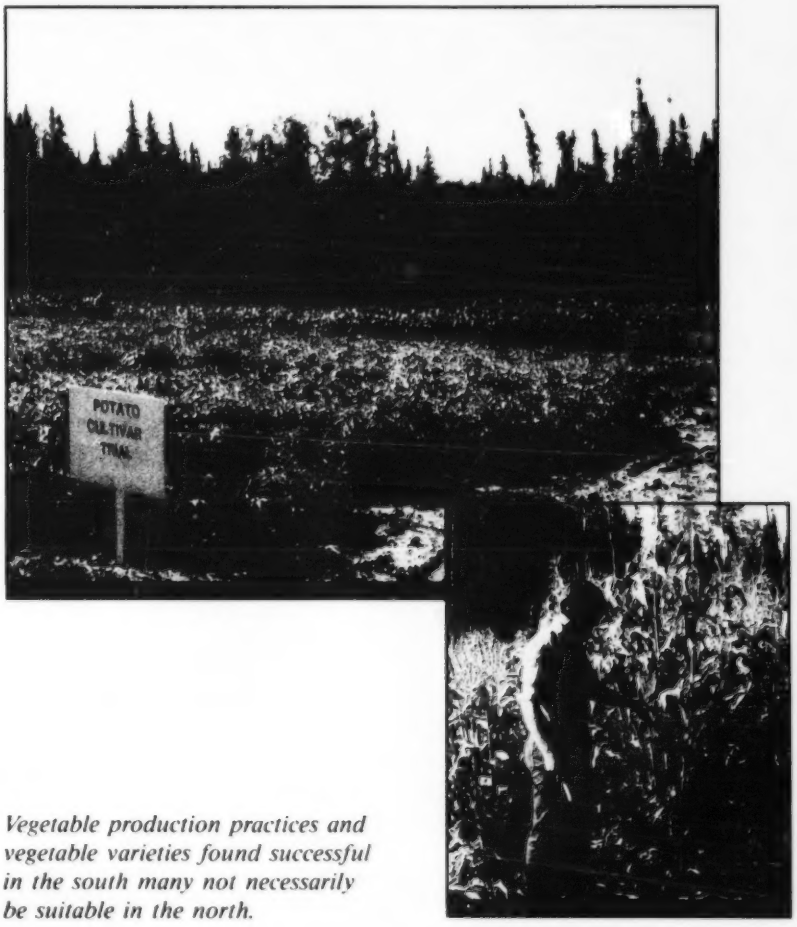
Produced by Saskatchewan Agriculture and Food and Saskatchewan Rural Development

Growing Vegetables in Northern Saskatchewan

The Potato Lake Horticulture Project located ten kilometers south of La Ronge is researching the production of vegetables and fruits in northern Saskatchewan.

The growing season in Northern Saskatchewan is generally shorter than in the southern part of the province. This is because the spring frosts can occur as late as the first week in June and the fall frosts can come as early as the last week in August. The average frost-free period in the north for the last four years was 87 days.

The other major factor that affects vegetable production in northern Saskatchewan is the cool soil temperatures particularly during the months of May and June when most vegetables are normally started. The cooler soil temperatures slow down seed germination as well as plant growth.



Vegetable production practices and vegetable varieties found successful in the south many not necessarily be suitable in the north.

This report is the result of the research during the last five years. It contains the list of specific varieties of common vegetables that have been found to be productive although any other varieties that were not in our test plots may also be suitable. It also describes some successful growing practices using plastic mulch, plastic tunnels and raised beds.

Recommended varieties of common vegetables

Two or three varieties of common vegetables are being recommended for growing in northern Saskatchewan based on the results of the studies conducted during the last five years. Selections have been based on the suitability of the crop in the north and also on productivity.

Vegetables	Cultivars	Description
1. Potatoes	a. Norland	An early white fleshed variety with red skins.
	b. Carlton	A white fleshed, white skinned very early maturing variety.
2. Beans	a. Contender	A white seeded variety with short pods.
	b. Provider	An early variety with shorter pods.
3. Peas	a. Green Arrow	Late maturing variety, very long pods, good quality.
	b. Lincoln Homesteader	Medium maturing variety, large pods, productive.
4. Carrots	a. Red Core Chantenay	Medium Length, tapered shape.
	b. Nantes Coreless	Long and thin, good quality.
5. Cabbage	a. Emerald Cross	Heavy producer.
	b. Early Marvel	Average head density, small heads.
	c. Golden Acre	Does well in poorer soils.
6. Broccoli	a. Emperor	Standard size with some disease resistance and very solid heads.
	b. Green Hornet	Average head size.
7. Cauliflower	a. Snow Crown	Solid white heads with vigorous growth.
	b. Early Snowball	Very early maturity with large white heads.
8. Tomatoes	a. Rocket	Small size but very productive and very early.
	b. Coldset	Excellent canning variety with early maturity.
	c. Subarctic Maxi	Earliest maturing variety with largest fruit of the Subarctic class.
9. Cucumber (slicing)	a. Dublin	Early maturing with good productivity.
	b. Sprint	Disease tolerant with vigorous growth.
10. Cucumber (pickling)	a. Green Spear	Good production with nice color.
	b. Early Russian	Hardy variety with high yield.
11. Corn	a. Polar Vee	Very productive, early maturing, good eating quality.
	b. Northern Vee	Slightly larger variety, very sweet.
	c. Spartan	Excellent eating quality, good production.

Planting and growing vegetables in northern Saskatchewan

Planting in the project is usually started around the last week in May hopefully after the last spring frost. The field is thoroughly tilled and commercial fertilizers are applied following soil test recommendations.

Vegetables are seeded or transplanted in areas best suited. Potatoes are grown in open sites away from competition with other root crops. A well-worked loose sandy loam soil with organic matter is ideal.

Cabbage, cauliflower and broccoli are grown in fertile medium to heavy loam soil.

Carrot, radish and beet are grown in open sunny plots away from competition from trees and shrubs. A well-drained, well-worked, loose soil, free of stones and perennial weeds is best.

Beans and peas are seeded in well-drained, well-worked soils.

Leafy vegetables such as lettuce, spinach and Swiss chard, grow well in sunny locations but will tolerate light shade. They specially produce in well-drained, rich fertile soil.

Tomatoes are grown in open and sunny plots, well-protected from winds. They will not tolerate shade. They will produce in medium loam soils although they will grow well in heavy loam soil if there is good drainage.

Sweet corn requires larger plots to grow properly. It will grow well in an open, sunny and well-drained location on a medium loam soil, although a good crop can be obtained in heavy loam if drainage is adequate or in sandy soil that contains plenty of organic matter.

Cucumbers and melons are warm weather crops and will not tolerate frost or cool growing conditions. They can be grown successfully in northern Saskatchewan with the use of either plastic mulch or plastic tunnel or both.

Raised beds important for early germination

A raised bed was constructed with scrap lumber in a low lying plot subject to a drainage problem. Logs, 6-12 inches in diameter were cut into the desired length and joined one on top of the other until a desired bed height was reached. Depending on location the bed should be at least 18 inches high. Soil was then shovelled into the bed until it was full.

This trial was conducted because many garden sites in the north are located at the poorly drained part of the backyard.

The result of the 3-year trial showed that growing vegetables in the raised bed were highly successful. Growth was much superior for all vegetables that were grown and production averaged three times more than in the ground without beds.

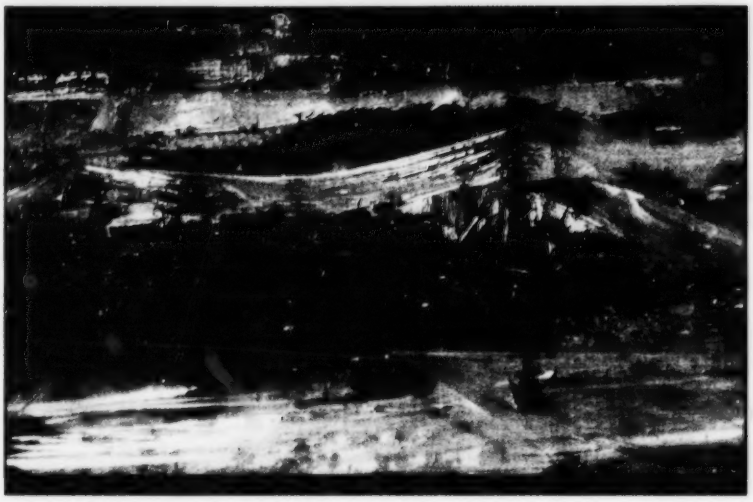
Raised beds allow better drainage and greater rooting depth. The soil also warms earlier which is important for early germination of seeds and good growth.

Plastic trials show increased vegetable production

Vegetables grown with the use of clear plastic tunnel and/or plastic mulch were all successfully harvested.

Clear plastic mulch and tunnel significantly increases soil temperature which is important for early and uniform germination. The clear plastic also increases air temperature and protects young plants from wind. It prevents water-loss through evaporation. Over-all it decreases the number of days to maturity, which satisfies the requirement for a shorter summer season prevailing in northern Saskatchewan.

The plants grown under plastic tunnel and mulch are very vigorous and more productive.



A. Plastic Mulch

A clear polyethylene plastic, 0.5 - 2.0 mil and 1.5 meters (4 feet) wide is placed on the soil, with 15 - 30 centimeters (6 to 12 inches) of the edges and ends buried in shalow trenches to keep the wind from blowing it away. Vegetable seeds or transplants are planted through a small cut in the plastic.

B. Plastic Tunnel

A 2.0 mil, clear polyethylene plastic, 1.8 meters (6 feet) wide with holes of 3.75 centimeters (1.5 inches) in diameter 20 to 25 centimeters (8 to 10 inches) apart is placed over wire hoops made from #9 wire and buried at the edges and ends. When the plants begin to push up against the plastic, the top part should be cut open gradually over a week to prevent burning of leaves and to harden plants.

C. Costs

Clear polyethylene plastic used as mulch or tunnel is commercially available in rolls 2000 feet long. Northern gardeners requiring only limited quantities can obtain clear plastic with varying measurements from local lumber companies or hardware stores. Prices range anywhere from 5 cents to 10 cents per foot length.

2.5M 02/90 ISSN 0840-9447